

#### REMARKS

Applicant appreciates the time taken by the Examiner to review Applicant's present application. Applicant has amended Claims 1, 16, 23, 29, 31 and 43, and added Claims 44 and 45. Applicant respectfully submits that no new matter has been added. Thus, Claims 1-45 remain pending in this application. This application has been carefully reviewed in light of the Official Action mailed January 17, 2006. Applicant respectfully requests reconsideration and favorable action in this case.

#### Abstract Objections

The abstract stands objected to as exceeding 150 words. Applicant has amended the abstract to address this objection. Accordingly, withdrawal of this objection is respectfully requested.

#### Rejections under 35 U.S.C. § 112

Claims 23, 31 and 43 stand rejected under 35 U.S.C. § 112, second paragraph. Applicant has amended Claims 23, 31 and 43, and submits that these amendments render these rejections moot. Therefore, Applicant respectfully requests the Examiner withdraw the rejection.

#### Rejections under 35 U.S.C. § 102

Claims 1-7, 10-12, 16-20, 23-25, 29-35 and 38-40 s stand rejected as anticipated by U.S. Patent No. 5,946,697 ("Shen"). Applicant respectfully traverses this rejection.

#### Overview of the Invention

Claim 1 of the application recites a method for updating a cache, comprising regenerating a request from metadata associated with content previously stored in the cache wherein the previously stored content was generated based on the request; receiving new content, wherein the new content is generated based on the request; and replacing the previously stored content with the new content in the cache.

Thus, embodiments of the present invention may provide a method for caching which may be usefully employed at a web server. A request for content may be sent from a client computer and received at a web server. When the request is received at the web server the caching framework may utilize one or more modules to evaluate the parameters of the request

(e.g. one module may evaluate or process a parameter of the request). Based on the evaluation of each of the parameters (accomplished by each of the modules) a signature (e.g. corresponding to the requested content) may be created. This signature can be used to search for the requested content in the cache. If the requested content is not in the cache, the requested content may be generated (e.g. by an application server), stored in the cache at the web server and provided to the requestor at the client computer.

The caching framework provided by embodiments of the present invention may also store a variety of metadata associated with the content in the cache. This metadata may comprise, for example, template metadata pertaining to the content (e.g. which template a piece of content is associated with), or request metadata pertaining to the content (e.g. metadata pertaining to the request which generated the content, etc. Request metadata for storing in association with the content may be provided to the caching framework by one or more of the same modules which are responsible for evaluating the parameters of the request. Thus, the request metadata stored with the content in the cache may pertain to the parameters of the request which originally generated the content.

Associating metadata with content in the cache at the web server allows this content to be regenerated and placed in the cache without receiving a new request (e.g. from a client computer). When content changes, metadata regarding the changed content may be communicated to the caching framework. This metadata may be compared to the metadata associated with each piece of content in the cache. If a match is found it may indicate that the content in the cache is affected by the changed content. Thus, to update the content in the cache the request which originally resulted in that previously stored piece of content may be regenerated from the metadata associated with that content. A response (e.g. new content responsive to the regenerated request) can then be returned to the caching framework and used to replace the previously stored (e.g. affected) content.

#### Overview of Shen

Shen, in contrast, relates to improving the transfer rate of hierarchically structured files (e.g. HTML) over a network. (See, Shen Col. 1, Lines 1-8, Col. 2, Lines 25-40)

More specifically, a user at a client computer may request a site. It may be determined if the HTML file for the site has been cached and, if it has not been cached, the request may be sent to a web server, an HTML file responsive to the request generated at the web server, the HTML file sent to the client computer and the HTML file cached at the client computer. (See, Shen FIG 3, Col. 6, Lines 11-40)

If, however, the HTML file corresponding to that request has been previously cached at the client computer an agent at the client computer extracts a macro name file and a macro definition file from the cached HTML file. (See, Shen FIG 3, Col. 6, Lines 55-60)

A macro name file is a file which comprises macro names formed from the cached HTML document. A macro name is a name that identifies a construct (i.e. list) in the cached HTML document. To form a macro name, Shen forms a checksum from the alphanumeric characters that comprise the construct or list. Thus, a macro name file comprises a set of checksums stored in the same sequence that that list or constructs to which they correspond appear in the cached HTML document. (See, Shen FIG 3, Col. 7, Lines 16-20, 22-25, 33-37, 42-46)

A macro definition file comprises a set of macro definitions, where each macro definition directly corresponds to a macro name and is simply the content of that portion of the body of the cached HTML file represented by that macro name. (See, Shen Col. 7, Lines 59-66) Thus, a macro definition file comprises a set of HTML constructs or lists.

After composing the macro name file and macro definition file from the cached HTML document the client agent append the macro name file to the request, and sends the request to the web server. (See, Shen FIG 3, Col. 8, Lines 3-8)

A server agent at the web server, fetches the HTML file referenced by the request and compresses this HTML file using the macro name file provided in the request. More specifically, the server agent compares the macro names of the HTML file with the macro name file received in the request, such that the compressed HTML file comprises the macro names for the portions of the HTML file stored on the server computer which have not changed interspersed with the full constructs or lists for those sections of the HTML file that have changed. (See, Shen FIG 3, Col. 8, Lines 26-35, 40-49, 54-61)

The compressed file is then returned to the client agent at the client computer which recovers the HTML file by expanding the compressed file using the macro definition file previously produced by the client agent to refresh the HTML document in the cache. (See, Shen FIG 3, Col. 9, Lines 10-20).

#### Discussion of Independent Claims 1, 16 and 29

Claim 1 of the application recites a method for updating a cache, comprising regenerating a request from metadata associated with content previously stored in the cache wherein the previously stored content was generated based on the request; receiving new

content, wherein the new content is generated based on the request; and replacing the previously stored content with the new content in the cache. Claim 18 recites similar limitations.

The Examiner states in the Office Action that "Shen teaches a method for updating a cache comprising regenerating a request (i.e. the checksum or macro name file) from metadata (i.e. the macro definition file), associated with previously stored content (i.e. the cached HTML file), wherein the new content is generated based on the request; and replacing the previously stored content with the new content in the cache."

Thus, to encapsulate the Examiner's assertion it seems if the Examiner is equating:

- the request of Claim 1 with the macro name file of Shen;
- the metadata of Claim 1 with the macro definition file of Shen;
- the previously stored content of Claim 1 with the cached HTML file of Shen;
- the new content of Claim 1 with changed macro compressed file of Shen (as the macro compressed file incorporates changes to the HTML document and is used by Shen to refresh the HTML file in the cache).

First, Applicant respectfully submits that the metadata associated with previously stored content of Claim 1 is not equivalent to a set of HTML constructs or lists (i.e. the macro definition file) of Shen. Notice that a macro definition file comprises a set of macro definitions, where each macro definition directly corresponds to a macro name and is simply the content of that portion of the body of the cached HTML file represented by that macro name (See, Shen Col. 7, Lines 59-66). Thus, a macro definition file comprises data taken from the HTML file (i.e. the content itself) not metadata associated with the content as recited by Claim 1.

Additionally, Claim 1 recites regenerating a request from metadata associated with content previously stored in the cache wherein the previously stored content was generated based on the request. The Examiner has equated the request of Claim 1 with the macro name file of Shen. As noted above, the macro name file of Shen is a file which comprises macro names formed from the cached HTML document (which the Examiner equates to the previously stored content). According to Claim 1, however, the previously stored content was generated based on the request. Thus, if a macro name file is equated with the request of Claim 1 as asserted by the Examiner, it would mean that the cached HTML content of Shen (previously stored content) was generated through the use of a file which comprises macro names formed from the cached HTML document (i.e. the previously stored content was generated based on a file formed from previously stored content). Applicant respectfully submits that this is

paradoxical and contradictory. The cached HTML file of Shen cannot have been generated in response to a request which comprises content from itself, as it could not have been present in the cache before it was generated. Thus, Applicant respectfully submits that the request of Claim 1 is not equivalent to the macro name file of Shen and that Shen does not disclose regenerating a request from metadata associated with content previously stored in the cache wherein the previously stored content was generated based on the request, as recited by Claim 1.

As Shen does not disclose all the limitations of Claim 1, Applicant respectfully requests the withdrawal of the rejection of Claim 1. Additionally, as Claims 16 and 29 recite limitations similar to Claim 1 the withdrawal of the rejection of Claims 16 and 29 is requested as well.

Dependent Claims 2-7, 10-12, 17-20, 23-25, 30-35 and 38-40

Dependent Claims 2-7, 10-12, 17-20, 23-25, 30-35 and 38-40 depend from either Claim 1, 16 or 29. Consequently, Applicant respectfully submits that the above arguments apply equally well to these claims and accordingly requests the withdrawal of the rejection of Claims 2-7, 10-12, 17-20, 23-25, 30-35 and 38-40.

Rejections under 35 U.S.C. § 103

Claims 8-9, 13-15, 21-22 26-28, 36-37 and 41-43 stand rejected as obvious over Shen in view of U.S. Patent No. 6,591,266 ("Li") and/or U.S. Patent No. 6,029,175 ("Chow").

As Claims 8-9, 13-15, 21-22 26-28, 36-37 and 41-43 depend indirectly from either Claims 1, 16 or 29 Applicant submits that the foregoing arguments apply equally well to these claims and respectfully requests the withdrawal of their rejection.

Newly Added Claims 44 and 45

Applicant has added Claims 44 and 45 to distinctly point out and claim the invention. Applicant respectfully submits no new matter has been added. Applicant respectfully submits that the cited prior art does not disclose at least generating first content responsive to a request; storing the first content in a cache, associating first metadata with the first content, wherein the first metadata is determined by evaluating the request; regenerating the request based on the first metadata associated with the first content, obtaining second content responsive to the request and replacing the first content with the second content in the cache. Applicant therefore respectfully requests the full allowance of Claims 44 and 45.

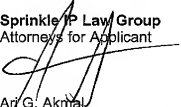
CONCLUSION

Applicant has now made an earnest attempt to place this case in condition for allowance. Other than as explicitly set forth above, this reply does not include an acquiescence to statements, assertions, assumptions, conclusions, or any combination thereof in the Office Action. For the foregoing reasons and for other reasons clearly apparent, Applicant respectfully requests full allowance of Claims 1-45. The Examiner is invited to telephone the undersigned at the number listed below for prompt action in the event any issues remain.

The Director of the U.S. Patent and Trademark Office is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 50-3183 of Sprinkle IP Law Group.

Respectfully submitted,

**Sprinkle IP Law Group**  
Attorneys for Applicant



Ari G. Akmal  
Reg. No. 51,388

Date: April 12, 2006

1301 W. 25<sup>th</sup> Street, Suite 408  
Austin, TX 78705  
Tel. (512) 637-9220  
Fax. (512) 371-9088